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Causal nominalism and the one over many problem

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Abstract: The causal nominalist theory of properties appears at first glance to offer a novel nominalist approach and one that can provide an illuminating response to the one over many problem. I argue, however, that on closer inspection causal ‘nominalism’ collapses into either a version of realism or a mere variant of one of the traditional nominalist approaches. In the case of Whittle’s specific brand of causal nominalism, I suggest it is best thought of as a version of what Armstrong calls ‘ostrich’ nominalism, a view which ultimately refuses to acknowledge the one over many problem rather than provide a solution to it.

Key words: causal nominalism; one over many; subjunctives; dispositions; universals.

1. Introduction

The dispositional theory of natural properties, on which properties are identified with causal potentialities, has gained a significant number of advocates in recent years (e.g. Bird 2007, Mumford 2004 and Shoemaker 1980). So far, the theory has nearly always been developed within a realist rather than nominalist framework, which is to say that dispositionalists have taken properties to be *sui generis* entities in their own right, such as universals or tropes. But could the central claims of dispositionalism be preserved without this realist commitment, thereby leaving us with a more ontologically parsimonious theory? Surprisingly, this question is severely underexplored in the philosophical literature and is in need of discussion. Indeed, Whittle (2009) appears to be the only philosopher to have devoted an article to this question. Interestingly, Whittle argues that a coherent and defensible nominalist version of

dispositionalism is available, a view she calls ‘causal nominalism’. At first glance, causal nominalism promises to provide a novel nominalist approach and one that, importantly, is able to provide an illuminating solution to the traditional one over many problem (Whittle 2009: 249), among other things.

Although Whittle does an admirable job of addressing many of the objections facing causal nominalism, there is a problem which is not given enough consideration, one which arises when we try to distinguish causal nominalism from other common versions of nominalism such as set or resemblance nominalism. The problem is that it is not easy to distinguish causal nominalism from these more traditional nominalist approaches without the one over many puzzle re-emerging. At this point, the realists will say that the causal ‘nominalist’ had better accept universals or tropes after all, on pain of leaving the one over many puzzle hanging. In order to respond to this realist challenge, the causal nominalist has two options. She can either retreat to one of the more orthodox nominalist one over many solutions, or she can simply refuse to engage with the one over many problem, thereby becoming what Armstrong tendentiously calls an ‘ostrich’ nominalist (1978: 151).¹ On either option, causal nominalism shows itself to be a mere version of one of the traditional nominalist approaches, and so is less novel than it first appears. Moreover, it then becomes hostage to the fortunes of those traditional approaches. Towards the end of the paper I suggest that Whittle’s version of causal nominalism – the most developed one yet – is best thought of as falling in the ‘ostrich’ camp. But in that case, Whittle owes an argument for why the one over many challenge, which many philosophers have grappled with through the millennia, is not a genuine problem after all.

¹ This view is so-called because as a realist, Armstrong (1978: 151) thinks that nominalists who turn their backs on the one over many problem are guilty of burying their heads in the sand.

2. Causal nominalism

Let us begin with the general picture that causal nominalism presents before moving on to some of the details developed by Whittle. Nominalist theories of properties are typically deflationist views about properties. That is, nominalist theories do not simply eliminate talk of things having properties but seek instead to account for properties in ways which do not require us to accept that they are *sui generis* entities in their own right. Properties, then, are taken to be derivative in some sense, grounded in more primitive facts. The resemblance nominalists, for example, account for properties in terms of primitive facts about the resemblances between particulars, while the predicate nominalists ground properties in mind-dependent facts concerning predicate application.

Prima facie, causal nominalism offers a similar approach, but grounds properties in the functional/causal roles of things rather than, say, resemblances. That is, a thing is said to have a certain property if and only if it plays a certain functional role (or multiple roles). But what, precisely, does this mean? Whittle's answer is that 'the claim that *a* is *F* iff *a* satisfies the functional role of *F-ness* is merely shorthand for saying that *a* would do *X* in circumstance *C*₁, *Y* in circumstance *C*₂ etc.' (2009: 252). At bottom, then, properties are grounded in the subjunctive facts concerning particulars on this view. Let us provide a concrete illustration. Why can negative charge be ascribed to a certain particle? The causal nominalist answer is that a particle is negatively charged in virtue of the fact that if, say, the particle were to find itself in a certain kind of electrostatic field, it would accelerate in a certain way (among other things). The causal nominalist proposal then tells this kind of causal story about all natural properties. On this view, the central dispositionalist intuition that properties and causal potential are inextricably tied is clearly preserved.

At this point, the question arises whether the functional facts could themselves be reduced to something further. Although subjunctives are clearly more primitive than properties on the causal nominalist picture, Whittle rightly acknowledges that this leaves open the question whether subjunctives themselves are to be given reductionist treatment in terms of possible worlds. In the end, Whittle briefly expresses a preference for an anti-reductionist, primitivist

understanding of modal facts (2009: 282–83), on the basis that it avoids the uneconomical commitment to modal realism and means that causal nominalism is not held hostage to the success of modal reductive programmes. We will return to this point later in §5.

Now that the general causal nominalist picture presented by Whittle has been sketched, let us examine where, precisely, causal nominalism is supposed to be located in relation to other kinds of nominalism, such as set and resemblance nominalism. This is not obvious, as Whittle readily admits. On the surface, ‘causal nominalism bears close affinities to resemblance and set nominalism’ (2009: 250). But on closer inspection, Whittle claims, causal nominalism should not be construed as a version of either of these views. The problem is, however, that it is difficult to explain *why* causal nominalism is not a version of, say, either set or resemblance nominalism, without the one over many puzzle re-emerging. And this is an issue which does not receive a great deal of attention.

Why is causal nominalism not a version of either set or resemblance nominalism, according to Whittle? Roughly speaking, set nominalists ground properties in set membership. At first glance, causal nominalism might seem similar to this view, since as Whittle describes it causal nominalism could say that ‘the property of F-ness can be construed as the set of particulars all of which realize the functional role definitive of F-ness’ (2009: 248). Sets are therefore involved, on this construal, but Whittle claims that on closer inspection causal nominalism is shown not to be a full blooded set nominalist position. The reason is that set nominalists think that having natural properties consists *purely* in belonging to certain natural sets. That is all there is to be said: set membership is taken to be primitive (see for example Quinton 1973). But according to causal nominalism, it is not simply a brute fact that certain particulars belong to certain natural sets. Set membership is not *constitutive* of propertyhood. Rather, particulars are united into natural property sets *in virtue* of realizing certain common functional roles.

For the same kind of reason it would also be wrong to categorise causal nominalism as a version of resemblance nominalism, according to Whittle. Resemblance nominalists take the resemblances between things to be primitive, and then claim that particulars are united into

natural property sets purely in virtue of their resemblances (see Rodriguez-Pereyra 2002 for a sophisticated version of this theory). But again, Whittle's summary of causal nominalism suggests that it is not a version of this view. Resemblance is not taken to be constitutive of propertyhood on her version. Rather, the resemblances of certain things are a *consequence* of the fact that they realize the same functional roles. Thus, while it is true that things with the same properties resemble, it is the fact that these things realize certain functional roles which really does the metaphysical work.

3. One over many again

So far, so good. But in showing why causal nominalism is not a version of either set or resemblance nominalism, a problem has crept in. Notice that in the above explanations, propertyhood is ultimately accounted for in terms of things realizing the same sorts of functional roles. But in the course of this explanation, have we not thereby introduced the notion of a functional role *type*? If distinct particulars can, as Whittle says, all 'realize' a certain functional role, it seems we are left with a case of one over many, and this is something that itself requires further explanation it may be urged. At this point, the realists will want to know what it means for things to 'realize' a certain functional role if not the fact that there are functional role universals or types which distinct things can instantiate. What does 'realization' amount to if not a kind of property universal instantiation?²

² It is worth noting at this point that the realists are unlikely to be moved by the response that functional universals would have to be pretty odd entities. To be precise, functional universals would be complex (relational) universals, relating certain types of stimuli to certain kinds of manifestations, with the relations involved being modal in nature. These might sound like rather odd universals, but the realist dispositionalists will not mind that. On Bird's dispositional realist view (2007), for example, universals are openly taken to be relational entities which stand in what Barker (2009) calls internal 'stimulus-response' relations — relations which are modally loaded. And one interpretation of such dispositional universals is precisely that they represent a kind of second-order functional fact, which different particulars can realize.

4. The first option: the retreat to an orthodox nominalism

How is the causal nominalist to respond? The first option is to accept the one over many challenge with respect to functional roles, and to give a thoroughly nominalist solution. The second option is to refuse to accept that there is a problem here to solve. Let us start with the first option. What kind of nominalist solution can be offered? Well, what is immediately clear is that the causal nominalist cannot simply re-apply their initial solution to the one over many problem at the level of functional role realization. Their initial account of propertyhood essentially said, to recall, that things share the same properties in virtue of realizing certain functional roles. But it would seem odd to say of the functional roles themselves that distinct things realize them in virtue of realizing certain further functional roles. Sure, we might want to explain the sharing of certain non-fundamental functional roles in terms of the realization of collections of more fundamental roles. But surely this kind of explanation must stop with the fundamental functional roles themselves. If it did not, then we would clearly have an explanatory regress in the making: the one over many problem would keep re-emerging with respect to whichever further functional roles we invoked.

What this suggests, then, is that a different approach needs to be taken to explain one over many in the case of functional role realization. And if a collapse into full-blown realism about functional (dispositional) properties is to be avoided, the approach must surely be along the lines traditionally suggested by nominalists. We might, for example, explain the sharing of functional roles by distinct things in terms of brute modal resemblances between them. But then causal nominalism collapses into a version of resemblance nominalism. Alternatively, one could, for example, say that things share the same functional roles in virtue of certain functional predicates applying to them. But then causal nominalism collapses into a version of predicate nominalism. In short, if this first option is taken, causal nominalism is likely to become a version of one of the traditional nominalist approaches. It becomes a less interesting view as a result, and becomes hostage to the fortunes of those traditional approaches.

5. *The second option: 'ostrichizing' causal nominalism*

The second option is to reject the terms of the one over many challenge as applied to fundamental functional role realization. This would amount, at bottom, to adopting what Armstrong calls the Quinean 'ostrich' nominalist approach. Although Whittle does not mention the Quinean approach at all in her article, there are clues that this is what the view she develops ultimately boils down to, which is perhaps to be expected given that, as we saw, she is careful to distinguish causal nominalism from the more orthodox nominalist approaches such as set and resemblance nominalism.

The clues begin when, in one place, Whittle rightly raises the question 'what does it mean to say that an object realizes or satisfies a certain functional role?' (2009: 248). In the following answer, she focuses mainly on the notion of realization and remarks that, like the realist's notion of instantiation, we need not take realization to consist in a genuine relational property. Rather, realization 'is a primitive predicate, which does not have a functional role of its own and so does not count as a property according to the standards of the causal theory of properties' (2009: 283). A realist is likely to agree that realization need not be seen as a genuine relation, just as instantiation need not. But what the realists will really want to know is *what are we to say about the functional roles themselves?* Should they not be viewed as universals of some sort? At this point, I suspect Whittle would reply that the kind of argument just given in the case of realization can simply be re-applied. We saw earlier how Whittle leans towards a primitivist understanding of the functional facts themselves (2009: 283). Moreover, by causal nominalism's own standards, the functional roles of things will not be viewed as properties, since they do not themselves have functional roles: rather, they simply are the functional roles. At the level of functional roles, we have reached the most basic level of analysis, it could be said, and so no further explanations need to be given. Perhaps we can call the functional roles of things properties if we like, but such talk is not to be taken ontologically seriously.

Of course, those who *do* take one over many problems seriously are not likely to be satisfied by this response: rival realists and nominalists alike will point out that since different

objects are said to share the same functional roles, we have a clear case of one over many, and so a serious account of this phenomena must be offered. But nonetheless, an option available to the causal nominalist is to simply reject the terms of this challenge.

The similarities of Whittle's causal nominalism to the Quinean 'ostrich' nominalist approach should now be clear to see. As Devitt (1980: 435) explains, the Quinean (Quine 1953) answer to the question how it is that *a* and *b* can both be F is a kind of non-answer. The 'answer' is simply that *a* is F and *b* is F. If one then asks for an ontological analysis of what it is for *a* to be F, the Quinean simply refuses to give any analysis – be it nominalist or realist in character. The reason why *a* is F is just that *a* exists and it is true of it that it is F. Essentially, then, Quinean nominalism refuses to play the game that the traditional one over many problem invites us to play. Similarly, when it comes to explaining how different things can realize different functional roles, the ostrich causal nominalist is in the same position: they give a Quinean (non-) answer. How is it that two distinct objects, *a* and *b*, can both be said to realize functional role F? The answer is just that it is a brute fact about *a* that it realizes F, while it is also a brute fact about *b* that it realizes F.

Of course, it should be clear that the ostrich causal nominalist does add something to the picture which the Quinean does not. The causal nominalist claims that natural property ascriptions are essentially covert ascriptions of functional role realizations, and to that extent the dispositionalists will be sympathetic. But on the version under consideration, those functional realization facts themselves have to be given the ostrich treatment, and so the general approach is, at bottom, Quinean. I suspect this may come as a disappointment to many. As we saw earlier, on the surface Whittle's causal nominalism promises to give 'a solution to the one over many problem' (Whittle 2009: 249). But as we have seen, the one over many question inevitably re-emerges with respect to functional role realization itself.

One of the things this discussion shows is that the extent to which dispositionalists will find Whittle's causal nominalism appealing is going to depend largely on how seriously they take the one over many problem to be. If they do take it seriously, they will think, as Devitt puts it, that causal nominalists are:

... guilty of trying to have it both ways: denying universals whilst, *prima facie* unashamedly making use of them ... [I]n Quinean language, they fail to face up to their ontological commitments. (Devitt 1980: 433).

6. Conclusion

Given that the one over many problem re-emerges at the level of functional role realization, the causal nominalists must in the end either retreat to a traditional nominalist approach to the problem or embrace a version of what Armstrong calls ‘ostrich’ nominalism. On either option, causal nominalism turns out to be less novel than it first appears. I have suggested reasons for thinking Whittle’s version of causal nominalism ultimately falls into the latter camp. But in that case, it is misleading to suggest that causal nominalism overcomes one over many problems. On the contrary, what ostrich causal nominalists need is an argument for why the functional one over many problem does not need to be addressed, despite the fact that most philosophers have, historically, thought that such questions require a serious answer.³

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³ My thanks go to an anonymous referee and to Travis Dumsday and Stephen Barker for offering to read an earlier draft.

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